UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: 30 NOV 1984 Region II

3-85

ELD RECEIVED 12/3/84 mcm 1:30 pm

SUBJECT: Request For Immediate Removal Funding And Exemption To The One Million Dollar Limit - For The Duane Marine Corporation Site, Perth Amboy, New Jersey - ACTION MEMORANDUM

FROM: Christopher J. Daggett
Regional Administrator

339531

TO: Lee M. Thomas, Assistant Administrator
Solid Waste And Emergency Response (WH-562A)

I. PURPOSE:

A. Site Setting/Description

The New Jersey Department of Environmental Protection (NJDEP) has requested a second CERCLA Immediate Removal Action to remove surface contamination at Duane Marine that poses an imminent threat to the health of the surrounding population. This includes removal and disposal of the contents of six roll-off containers, the contents of any open tanks, and of all the drums at the site and removal of obvious surface/soil contamination. If any tanks are leaking, their contents will be removed pending available funds at the completion of all other activities. The NJDEP is preparing a request for proposal to address the remaining contamination at the site. However, a contract is not expected to be awarded for 6 to 9 months. Though EPA has recently installed site security measures at Duane Marine, the Perth Amboy Police Department has documented children on-site and it appears they have been tampering with drums containing hazardous materials since these measures were completed. Continued access to this site by children, despite the security measures, is the prime reason for a second EPA CERCLA removal action at the site. Further security measures (guard service, caution signs) have now been implemented, but only as a stop gap measure until the hazardous wastes which are most accessible on site are removed.

Estimated costs for this removal action exceed the one million dollar limit for an Immediate Removal Action under CERCLA. A request is made for an exemption to the one million dollar limit based on the required work.

II. BACKGROUND:

The Duane Marine Corporation site is located at 26 Washington Street in Perth Amboy, Middlesex County, New Jersey (Figure 1). The site directly borders the Arthur Kill, waters of the United States. Approximately 3,700 metal 55-gallon drums, two dozen metal tanks, six tankers, three box trailers, and six roll-off dumpsters have been abandoned on the five-acre site (Figure 2).

Duane Marine Corporation was an oil spill cleanup contractor that opened this site for storage, treatment, blending, and reprocessing of waste oils. The NJDEP issued a temporary operating authorization to this facility on May 9, 1978 for acceptance of all of the following waste types: tank bottoms, waste oils, oil sludge, solvents, acids, alkali solutions, and flammable liquids.

The facility was not authorized to accept PCB waste which has been found at the site. On July 7, 1980 a major fire at General Cable in the Perth Amboy Industrial Center (on Washington Street) spread to the Duane Marine facility resulting in the destruction of several buildings, boats, and vehicles. Many 55-gallon drums of waste oils and chemicals were consumed during the fire. Subsequent to the fire, Duane Marine Corporation expressed no interest in continuing operations and abandoned the site.

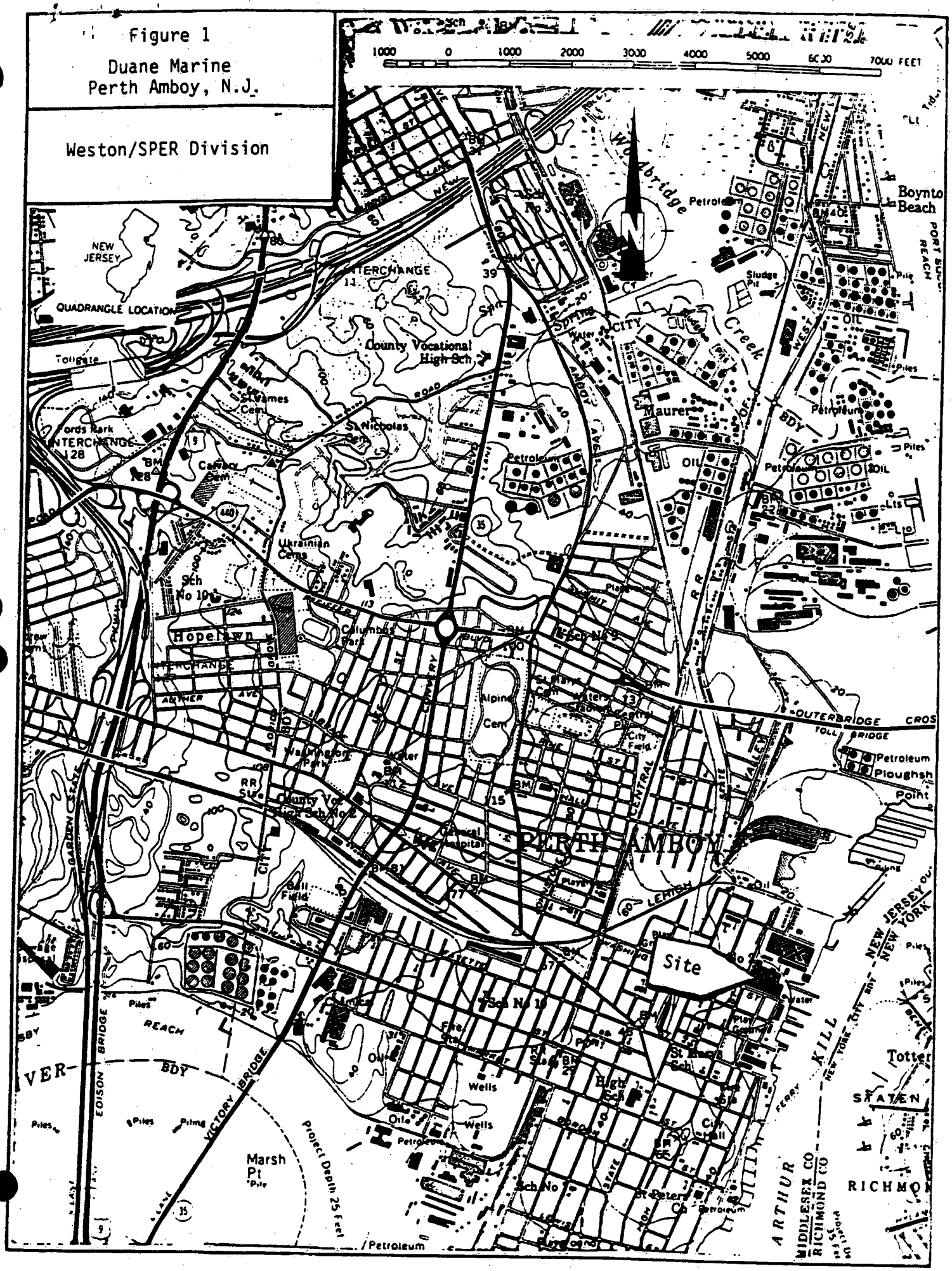
The majority of the approximately 3,700 remaining 55-gallon drums are located in the north to northwest area of the site (Figure 2). These drums are haphazardly stacked in several piles on the asphalt pavement, up to three tiers high and ten deep. Some of the drums in this area are empty, having been consumed by the July 1980 fire. The others in this area appear to contain mostly solid materials and have rusted/corroded such that labeling information is legible on only a few. Some of these drums are bulging and some do not have lids.

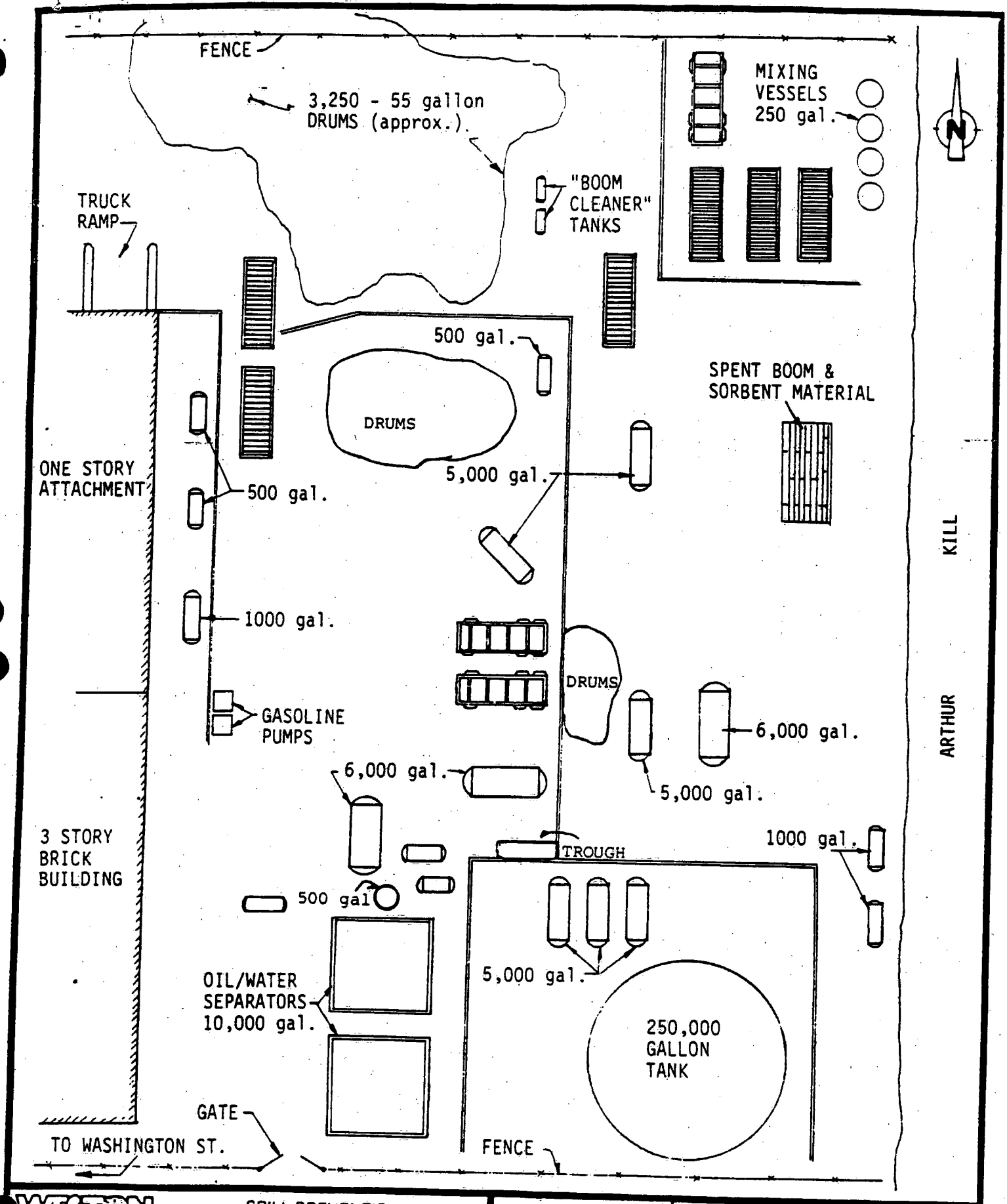
A much smaller drum storage area (approximately 100 drums) is located in the southeastern portion of the site. They are intact but have been tampered with between August and September 1984.

Figure 1

Duane Marine
Perth Amboy, N.J.

Weston/SPER Division





WESTON | SPILL PREVENTION & EMERGENCY RESPONSE DIVISION

In association with ICF, Inc., Jacobs Engineering, Inc., & Tetra Tech, Inc

FIGURE 2
DUANE MARINE SITE PLAN

LEGEND: 20 CY DUMPSTER; BOX TRAILER; TANK

A 250,000 gallon liquid storage tank is located in the southeastern portion of the site. This steel tank is approximately thirty feet high and sits on a concrete foundation. An NJDEP sampling program conducted on June 12, 1981, showed that this tank had a PCB concentration of 176 ppm. The soil surrounding this tank is stained with an oily material from previous leakage. The tank wall is punctured on the northern side, accounting for at least part of the soil contamination. This puncture may have resulted from bullet holes. In 1982, NJDEP measured the volume of the contents of the tank to be approximately 6 feet from the top of the tank. On July 13, 1984 NJDEP measured the contents of the tank to be approximately 27 feet from the top of the tank. The reason for this disparity is uncertain at this time, but leakage of this amount into or on the ground is not obvious.

Adjacent to the liquid storage tank are an additional three 5,000 gallon waste oil treatment tanks connected in series.

The six roll-off dumpsters (i.e., 30 cubic yards each) contain solid and/or sludge like materials. The three uncovered roll-off containers were covered with plastic tarps during EPA's first Immediate Removal Action conducted in July 1984. Also, one roll-off, where the rear door had opened and some of the contents had spilled out, was resealed at that time.

The two oil/water separator tanks (i.e., 10,000 gallons each) are located adjacent to the gate entrance. They were covered with tarps, although there is evidence of oil leakage/spillage on the asphalt pavement.

Six tankers are also present on site. Three tanks are of 5,000 gallon capacity and the other three are of 6,000 gallon capacity. One of these tankers has leaked in the past with no means of containment present and was repaired on 11/14/84.

There are three box trailers on site, one of which has been badly damaged by a fire that was suspected to be arson.

There are fifteen small tanks located throughout the site, the largest being of 1,000 gallon capacity. Several of these tanks are rusted/corroded and a few contain what

appear to be bullet holes.

The site is located in a heavily populated, densely industrialized area. A July 1984 Immediate Removal Action by EPA under CERCLA attempted to address the vandalism problem by repairing the fence and boarding up first and second floor windows (blocking access to vandals entering through the dangerously deteriorated building). This was an interim measure until NJDEP could act to remove hazardous substances from this site. Children have subsequently been observed on site. Repeated vandalism continues as drums appear to have been tampered with apparently by children between August and September 1984. This increases the threat to human health via direct contact with the hazardous materials despite the repaired security measures, and periodic routine checks by local police.

PCB contaminated oil seeped from the Duane Marine shoreline in small quantities directly into the Arthur Kill on July 12, 1984. A boom is still in place. During the July 1984 Immediate Removal Action, a trenching operation determined that there is oil floating on the water table. The largest concentrations of oil were observed between the seep and the northeast corner of the diked area surrounding the 250,000 gallon tank. The source of the oil was believed to be from buried crushed containers coated with heavy oil found during the excavation process.

The site is within 0.2 miles of a residence. Approximately 5,000 people live within 1 mile of the site, including children. Perth Amboy has a population of 39,000. Directly across from the site on Washington Street is a large propane tank enclosed by a chain-link fence. The Perth Amboy Dry Dock Company is adjacent to the site on Front Street.

B. Quantity and Types of Substances Present

There is believed to be a substantial quantity of hazardous materials on site. A sampling program of various tanks was conducted by the NJDEP in June and August 1981. The results revealed that these tanks contained many volatile compounds (including bromoform at concentrations up to 3,840 ppm, trichloroethylene up to 10,000 ppm and dichlorobromomethane up to 11,200 ppm). PCB's were detected in six tanks in concentrations ranging from 60 to 729 ppm. See complete analytical results in Appendix 1. The following hazardous substances were identified at Duane Marine:

Substance	Statutory Source For Designation Under CERCLA
Bromoform	CWA, Section 307(a)
Dichlorobromomethane	CWA, Section 307(a)
Ethylbenzene	CWA, Section 311(b)(4)
Tetrachloroethylene	CWA, Section 307(a)
Trichloroethylene	CWA, Section 311(b)(4)
Total-Xylene	CWA, Section 311(b)(4)
PCB/1254	CWA, Section 311(b)(4)
PCB/1221	CWA, Section 311(b)(4)
PCB/1216	CWA, Section 311(b)(4)
Toluene	CWA, Section 311(b)(4)
Chlorobenzene	CWA, Section 311(b)(4)
1,2-Dichloroethane	CWA, Section 307(a)
1,2-Dichloropropane	CWA, Section 307(a)
Trichloroethane	CWA, Section 307(a)

The NJDEP also obtained samples from the six roll-off dumpsters in September 1981. The results revealed the roll-offs contained many of the priority pollutants (including xylene at concentrations as high as 19,000 ppm, 1,1,1-trichloroethane at 1,500 ppm and benzene at 500 ppm). See complete analytical results in Appendix 1. The following hazardous substances were identified:

Substance	Statutory Source For Designation Under CERCLA
Benzene	CWA, Section 311(b)(4)
Toluene	CWA, Section 311(b)(4)
Ethylbenzene	CWA, Section 311(b)(4)
Total-Xylene	CWA, Section 311(b)(4)
Dimethyl phthalate	CWA, Section 307(a)
Butylbenzyl phthalate	CWA, Section 307(a)
Methylene chloride	CWA, Section 307(a)
1,1,1-Trichloroethane	CWA, Section 307(a)
Tetrachloroethylene	CWA, Section 307(a)
Phenol	CWA, Section 311(b)(4)
Arsenic	RCRA, Section 3001
Chromium	RCRA, Section 3001
Lead	RCRA, Section 3001
Silver	RCRA, Section 3001
Selenium	RCRA, Section 3001

The hazardous substances identified at Duane Marine exhibit a range of toxic effects* including:

Carcinogenicity (PCB's, 1,2 dichloroethane, trichloroethane, benzene, butylbenzyl phthalate, methylene chloride, arsenic, and chromium)

Teratogenicity, (dimethyl phthalate, butyl-benzyl phthalate, and chromium)

Mutagenicity (chromium)

Kidney damage (xylene, trichloroethane, methylene chloride, phenol, selenium, and tetrachloroethylene)

Liver damage (xylene, chlorobenzene, trichloro-ethylene, methylene chloride, phenol, selenium, arsenic, tetrachloroethylene, and trichloroethane)

Heart damage (selenium)

Hematopioetic (blood forming system) damage (benzene and lead)

Circulatory system damage (arsenic)

Intestinal damage (arsenic)

Neurological damage (trichloroethylene and arsenic)

Anemia (benzene and lead)

Narcotic symptoms (chlorobenzene, dichloroethane, trichloroethane, methylene chloride, bromoform, tetrachloroethylene, trichloroethylene, 1,2-dichloropropane, and dichlorobromomethane)

*References:

1) Intermedia Priority Pollutant Guidance Documents, U.S. EPA, 1983.

2) Occupational Health Guidelines For Chemical Hazards, U.S. Department of Health and Human Services/U.S. Department of Labor, 1981.

Irritants - respiratory, dermal, eye and/or mucous membrane: xylene, PCB's, toluene, chlorobenzene, 1,2-dichloroethane, 1,2-dichloropropane, dimethyl phthalate, methylene chloride, phenol, selenium, arsenic, chromium, bromoform, ethylbenzene, tetrachloroethylene, and trichloroethylene)

Very few of the drums have legible manufacturer or product labels. Product labels noted include waste oils, epoxy/adhesives, sodium sulfhydrate, and caustic sodium hydroxide. Manufacturer labels include Dow Chemicals, Chevron, Anchor Chemical Company, and G. Whitfield Richards.

A partial list of manifests in the possession of EPA (representing 787 drums) shows the nature of the drummed wastes brought into Duane Marine in 1979, and reflects the types of materials this facility accepted (see Table 1). From these manifests, the majority of the drums brought into the site were classified as flammable liquids (including acetone, mixed solvents, paint residues, oil and oil sludges). In addition, there are drums classified as containing corrosive materials.

C. This site is <u>not</u> on the National Priorities List.

III. <u>THREAT:</u>

A. Threat of Exposure to Public or the Environment

The major threat of exposure to the public or the environment is multifold. Prior to the installation of security measures by EPA, children were documented on site on February 16, 1984 and July 30, 1984 during EPA site inspections. Children apparently use this area as a playground. Despite the site security measures installed on July 30, 1984, evidence of entry continues to be observed at the site. The Perth Amboy Police Department has documented sitings of children on Duane Marine premises since this date. EPA OSC, Bruce Sprague, has observed signs that drums containing what appears to be caustic materials have been tampered with since EPA completed the site security measures. On September 12, 1984, further repairs were made to the security measures (replacing window boards). Since that time, window boards have again been removed and barbed wire tampered with. This continued site entry by children results in a threat of direct contact with the hazardous substances indicated above and increases the possibility of arson.

An additional concern is the potential for fire and subsequent release of toxic fumes. The site is known to

TABLE 1 PAGE 1

TYPE OF MATERIALS DUANE MARINE
ACCEPTED DURING 1979*

Date	Company	Number of Drums	Type	Classification
4/20/71	Tenneco Chemical	50	Mixed Solvents	Liquid, Flammable
4/25/79	Tenneco Chemical	11	Mixed Solvents	Liquid, Flammable
4/16/79	General Motors	73	Acetone-Dirty	Liquid, Flammable
4/16/79	General Motors	6	Caustic Soda	Liquid, Corrosive
4/16/79	General Motors	1	Sealer	Solid, Flammable
4/17/79	General Motors	80	Acetone-Dirty	Liquid, Flammable
4/19/79	General Motors	73	"ELPO"	Liquid, Mutagen
4/19/79	General Motors	12	Acetone-Dirty	Liquid, Flammable
4/19/79	General Motors	17	Sealers	Solid, Flammable
4/19/79	General Motors	2	Brake Fluid	Liquid, Flammable
4/24/79	General Motors	1	Acid	Liquid, Corrosive

*Information obtained from a partial list of manifests in EPA's possession.

TABLE 1

TYPE OF MATERIALS DUANE MARINE
ACCEPTED DURING 1979*

Date	Company	Number of Drums	Type	Classification
4/24/79	General Motors	25	Alkaline Solution	Liquid, Irritant
4/24/79	General Motors	9	Oil and Oil Sludges	Liquid, Flammable
4/24/79	General Motors	10	Paint and Pigment Resins	Liquid, Flammable
4/24/79	General Motors	23	Solvent	Liquid, Flammable
4/24/79	General Motors	10	Sealer	Mixture, Flammable
4/26/79	General Motors	7	Oil and Oil Sludges	Liquid, Flammable
4/26/79	General Motors	3	Paint and Pigment Resins	Liquid, Flammable
4/26/79	General Motors	11	Solvent	Liquid, Flammable
4/26/79	General Motors	59	Sealer	Solid, Flammable
5/15/79	General Motors	7	Alkaline	Solid, Corrosive
5/15/79	General Motors	15	Oil and Oil Sludges	Liquid, Flammable

*Information obtained from a partial list of manifests in EPA's possession.

TABLE 1

TYPE OF MATERIALS DUANE MARINE ACCEPTED DURING 1979*

Date	Company	Number of Drums	Type	Classification
5/15/79	General Motors	52	Solvent	Liquid, Flammable
5/15/79	General Motors	4	Sealer	Solid, Flammable
3/30/79	CONRAIL	80	Paint and Pigment	Mixture, Flammable
1/26/79	Revlon	37	Aluminum Oxide	
1/29/79	Gusmer Corp.	2	Oil and Oil Sludge	Liquid
1/30/79	P.A.T.H.	23	Mixed Solvents	Liquid, Flammable
1/30/79	P.A.T.H.	7	Oil and Oil Sludges	Liquid, Flammable
1/8/79	General Electric	70	Paint and Pigment Residue	Mixture, Toxic
6/26/79	Orbit Tool & Die	6	Oil and Oil Sludges	Mixture, Flammable

*Information obtained from a partial list of manifests in EPA's possession.

contain flammable materials. A fire involving an abandoned office trailer on site in September 1983 was considered to be of suspicious nature. Remnants of fireworks were found scattered on site on July 13, 1984. The potential for arson still exists.

As secondary containment measures are virtually non-existent with the exception of the dike around the 250,000 gallon and three 5,000 gallon tanks, any run-off from a spill/fire will flow into the Arthur Kill, waters of the United States. Although this waterway is not of high quality, local residents do use it for recreational purposes in this area, including boating and fishing.

B. Evidence of Extent of Release

Spillage of materials have occurred onto the grounds and adjoining waterway at this site (and into the air during the General Cable fire). This action, however, is directed at reducing the direct contact and future threat of fire at this site.

C. Previous Actions To Abate Threat

The NJDEP collected samples for volatile organics analysis from eleven tanks/tankers on June 12, 1981 and also obtained samples for PCB analysis from thirteen tanks/tankers on August 11, 1981. The six roll-off dumpsters were sampled by NJDEP on September 2, 1981 for priority pollutant analysis. Two additional tanks were sampled for PCB analysis by NJDEP on November 19, 1981. Hazardous substances, including PCB's, were found as previously indicated on pages 4 and 5.

In August 1981, New Jersey Spill Fund monies were utilized to secure the site. Repeated vandalism since then and continued deterioration of waste containers has resulted.

In July 1984, NJDEP requested that EPA repair site security as they were unable to act at the time. This action was completed on September 12, 1984 at a cost of approximately $29,000, of the original $30,000 obligated to mitigation contracting. Site security during daylight hours commenced on November 29, 1984 utilizing monies ($15,000) authorized under the first EPA removal action bringing the total for the initial removal action to $45,000 of the $50,000 initially authorized. Additional

sampling by EPA at this time would not be cost effective as the nature of the hazard has already been documented through the manifests in EPA possession, the NJDEP sampling program and our knowledge of the type of operation involved here in the past.

D. The NJDEP is issuing a request for proposal to cover residual actions to be taken at the site. A contract is not expected to be awarded 6 to 9 months from now. They have concurred that EPA should remove the surface wastes that poses an imminent threat to the public at this time. NJDEP and the Perth Amboy Police Department are strengthening plans to increase site security for those hours (evening) not covered by EPA.

E. Authority to exceed the one million dollar CERCLA limit on removal actions is being requested. The conditions at the site meet the criteria specified in CERCLA Section 104(c)(1) as follows:

1) Continued response actions are immediately required to prevent, limit or mitigate an emergency.

   Duane Marine contains a large quantity of hazardous materials as previously described. The site is abandoned. Vandalism and site entry by children is a chronic problem. Remnants of fireworks have been observed on site when the site is known to contain flammable materials. In 1983, a fire in a box trailer occurred and was suspected to be arson. The potential for arson still exists.

2) There is an immediate risk to the public health and welfare and the environment.

   The site is located in an industrial area of Perth Amboy. Approximately 5,000 people live within one mile of the site. Despite the site security measures installed in July 1984, evidence of vandalism continues to be observed at the site. This continued site entry by children permits them to come in direct contact with hazardous substances as indicated above. A fire involving an abandoned trailer on site in

September 1983 was considered to be of suspicious nature. Remnants of fireworks were found scattered on site on July 13, 1984. The potential for arson still exists. As secondary containment measures are virtually non-existent, any run-off from a spill/fire will flow into the Arthur Kill, waters of the United States.

3) Such assistance will not otherwise be provided on a timely basis.

Security measures that normally constitute adequate action at other sites have proven ineffective here. Potential responsible parties have not acted to remove the hazardous materials at the site. The NJDEP has not been able to remove these hazardous materials to date either. The NJDEP does not anticipate any action on their part at the site for 6-9 months when a contract for remedial actions at the site is expected to be awarded.

IV. ENFORCEMENT:

EPA will be issuing 106 Administrative Orders to all responsible parties identified to date. (See Appendix 2 for enforcement activities undertaken by NJDEP.)

V. PROPOSED PROJECT AND COSTS:

A. The Objectives of this Removal Action are as follows:

1) Remove the contents of the 6 roll-off containers to remove the threat of direct contact with hazardous materials.

2) Empty all open vessels (two 10,000 gallon oil/water separator tanks, one 500 gallon tank, one trough containing approximately 100 gallons of liquid) and one 5,000 gallon tank in the diked area to reduce the threat of direct contact with hazardous materials and minimize the threat of arson.

3) Remove all drums (empty and full). The removal of the empty drums will create enough space to allow staging and sampling of the full drums to remove the threat of direct contact with hazardous material and reduce the potential of arson.

4) The liquid contents of the other closed, non leaking tanks on site will not be removed.

- All valves on such tanks will be locked to reduce the threat of vandalism. The potential for arson involving these tanks would be minimal once other flammable materials are removed.

This project will be approached in a phased manner to avoid unnecessary, costly mobilization/demobilization of the ERCS contractor. The phases are described as follows:

Phase I

Sampling - to be conducted by the ERCS contractor.

RCRA disposal characteristics on the following:

Number of Samples

6 - Roll-off containers
2 - 10,000 gallon oil/water separator tanks
1 - 5,000 gallon tank (in diked area)
2 - 2 phases of 250,000 gallon tank
11

Compatibility tests on the following:

Number of Samples

2 - 10,000 gallon oil water separator tanks
1 - 5,000 gallon tank (in diked area)
1 - trough
1 - 500 gallon tank
5

Water content and fuel value on the following:

Number of Samples

3 - underground gas/diesel tanks

Priority pollutant analysis on the following:

Number of Samples

2 - phases of the 250,000 gallon tank

Disposal will be arranged for the roll-off containers and all tanks tested (except the 250,000 gallon tank) upon return of the analysis results.

Phase II

Crush all empty drums and arrange for disposal.

Stage all full drums for sampling.

Phase III

Compatibility testing for all drums and tanks that were not tested during Phase I sampling.

RCRA characteristic testing on all bulked loads of drum contents (at an off-site laboratory).

Disposal of all bulked loads of drummed materials will be arranged upon return of the analysis results.

B. Summary Of Estimated Costs For The Proposed Response Action:

1)	Phase I Sampling	$5,850
2)	Empty Drum Removal	51,040
3)	Compatibility Testing and Documentation	248,000
4)	Full Drum Removal	301,380
5)	Removal of Roll-Off Contents	25,125
6)	Removal of Open Tank Contents	63,205
7)	Disposal of Diesel/Gasoline	No Cost
8)	Remove Liquid Contents of Leaking Closed Tanks	36,555
9)	Decon Empty Containers	5,600
10)	Remove Obviously Contaminated Soil	3,500
11)	Additional Project Costs (Command Post, Equipment Trailer and Lab Trailer)	12,713
12)	SUBTOTAL	$752,968
13)	15% ERCS Contingency	112,945
14)	TAT Costs	50,000
15)	Intramural Costs (HQ and Region)	35,000
	PROPOSED REMOVAL ACTION TOTAL	$950,913
	15% Contingency	142,637
	MONIES AUTHORIZED TO DATE ON PREVIOUS REMOVAL ACTION	50,000
	TOTAL	1,143,549
	ROUNDED TOTAL	1,144,000

In order to further prevent or mitigate immediate and significant risk of harm to human life and health or to the environment, NJDEP will be addressing the remaining hazards at the site. This includes such items as disposal of any remaining hazardous wastes,

soil sampling, and cleanup, installation of monitoring wells and container decontamination.

C. Project Schedule

It is estimated that the entire removal action will take 4-6 months.

VI. REGIONAL RECOMMENDATION:

Conditions at the Duane Marine Corporation site meet the NCP Section 300.65 criteria for an immediate removal (i.e., it presents an immediate and significant risk of harm to human life and health because of the potential for direct human exposure to acutely toxic substances and the potential for fire).

I recommend your approval of the immediate removal request with an exemption to the one million dollar limit for a removal action, as the conditions at the site meet the criteria specified in CERCLA Section 104(c)(1). While increased security measures are in place a formal effort will first be made to order responsible parties to act before utilizing Federal Trust Fund monies authorized herein. The estimated total project costs are $1,144,000 of which $1,008,550 are for mitigation contractor costs. A total of $45,000, already obligated to mitigation contracting at the site for past immediate removal measures, is contained in this ceiling.

Please indicate your approval or disapproval of this request by signing below and returning this memorandum to me. This approval authorizes an exemption to the one million dollar limit for removal actions at this site.

Approve:_____ Date:_____

Disapprove:_____ Date:_____

Attachments

cc:

W. Librizzi, 2ERR
R. Ogg, 2ERR-SIC
F. Rubel, 2ERR-RP
J. Stanton, WH-548B
W. Hedeman, WH-548

APPENDIX 1

NJDEP Sample Analysis Results

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Edwin Liu

FROM Joe Buttich

DATE March 5, 1982

SUBJECT Duane Marine Corporation, Washington and Front Streets, Perth Amboy, New Jersey DHM #81-3-30-10

I. Purpose of Report:

At your request the following is a list of all analytical data received from the above subject location by the Division of Hazard Management, Bureau of Technical Services.

II. Discussion - Section One

On 6/12/81, Joe Buttich, Scott Santora and Joe Goliszewski traveled to Perth Amboy to take samples at the Duane Marine Fire site. Two samples were taken at various locations on the property, a list of the locations and results are as follows:

Sample #	Location	Parameter	Analytical Results from Princeton Aqua Science	
C-41960	Large Green Storage Tanker	Volatile Organics PCB's	Volatile Organics/ppm	
Correspond to Stablex-Reutter C-27665 C-27666 C-27667			Bromoform	1730
			Dichlorobromomethane	516
			Ethylbenzene	2860
			Tetrachloroethylene	1550
			Trichloroethylene	300
			Total-Xylene	5000
			PCB's/1254	176
C-41961	White 300 Barrel Tank #1	Volatile Organics PCB's	Volatile Organics	
Correspond to Stablex-Reutter C-27661			Bromoform	152
			Dichlorobromoethane	119
			Ethylbenzene	76
			Toluene	147
			Total-Xylene	586
			PCB/1254	8
			1,1,1 - Trichloroethane	27
			1,2 - Dichloroethane	3.
			Trichloroethylene	4.
C-41962	White 300 Barrel Tank #2	Volatile Organics PCB's	Volatile Organics	

continued . . .

Sample #	Location	Parameter	Analytical Results from Princeton Aqua Science	
Correspond to Stablex-Reutter C-27660			Bromoform	30
			Chlorolbenzene	13.8
			Ethylbenzene	49
			Toluene	59
			Total-Xylene	53.4
			PCB/1254	156
C-41963	Tanker #120 NJSWA 1177AQS	Volatile Organics PCB's	Volatile Organics	
Correspond to Stablex-Reutter C-27664			Chlorobenzene	6.0
			1,2 - Dichloroethane	4.2
			1,2 - Dichloropropane	4.5
			Ethylbenzene	1130
			Trichloroethane	16
			Toluene	1630
			Total-Xylene	2720
			PCB/1254	769
C-41964	Tank #1	Volatile Organics PCB's	Volatile Organics	
Correspond to Stablex-Reutter C-27657			Bromoform	3840
			1,2 - Dichloroethane	358
			Ethylbenzene	2650
			1,1,2,2 - Tetrachlorethane	282
			1,1,2 - Trichbroethane	623
			Trichloroethene	10000
			Toluene	3860
			Dichlorobromomethane	11200
			Total-Xylene	5120
C-41965	Tank #2	Volatile Organics PCB's	Volatile Organics	
Correspond to Stablex-Reutter C-27658			Bromoform	770
			1,2 - Dichloroethane	29
			Ethylbenzene	230
			1,1,2,2 - Tetrachloroethane	70
			Trichloroethene	60
			Toluene	930
			Dichlorobromomethane	470
			Total-Xylene	852

continued . . .

Sample #	Location	Parameter	Analytical Results from Princeton Aqua Science	
C-41966	Tank #3	Volatile Organics PCB's	Volatile Organics	
Correspond to Stablex-Reutter C-27659			Bromoform	3550
			1,2 - Dichloroethane	550
			Ethylbenzene	1810
			1,1,1 - Trichloroethane	1050
			Trichloroethene	600
			Toluene	7210
			Dichlorobromomethane	4800
			Total-Xylene	1770
			PCB/1254	195
C-41967	Red Tanker Approximately 5000 gallons	Volatile Organics PCB's	Volatile Organics	
Correspond to Stablex-Reutter C-27656			1,2 - Dichloroethane	162
			Trans-1,2 - Dichloroethane	294
			Ethylbenzene	1590
			1,1,2,2 - Tetrachloroethane	300
			Trichloroethene	370
			Toluene	240
			Total-Xylene	2738
			PCB/1254	60
C-41968	Roll-off Tanker	Volatile Organics PCB's	Volatile Organics	
Correspond to Stablex-Reutter C-27655			Bromoform	2510
			Chlorobenzene	7
			1,2 - Dichloroethane	162
			Trans-1,2 - Dichloroethane	294
			Ethylbenzene	1590
			1,1,2,2 - Tetrachloroethane	300
			Trichloroethene	370
			Toluene	240
			Dichlorobromomethane	1100
			Total-Xylene	2738
			PCB/1254	60

continued . . .

Sample #	Location	Parameter	Analytical Results from Princeton Aqua Science	
C-41970	White Tanker	Volatile Organics PCB's	Volatile Organics	
Correspond to Stablex-Reutter C-27652 C-27653 C-27654			Bromoform	1640
			1,2 - Dichloroethane	1580
			Ethylbenzene	586
			1,1,2,2 - Tetrachloroethane	613
			Tetrachloroethene	770
			Toluene	189
			Dichlorobromomethane	3820
			Total-Xylene	2310
C-41971	Red Tanker	Volatile Organics PCB's	Volatile Organics	
Corresponds to Stablex-Reutter C-27651			Bromoform	534
			Chloroform	411
			1,2 - Dichloroethane	35
			1,2 - Dichloropropane	1480
			Tetrachloroethene	5380
			Trans-1,2 - Dichloroethylene	77.4
			Total-Xylene	6120
			PCB/1254	292

Section Two

Analytical results of samples taken by Joe Buttich and Steve Borgianini on 8/11-12/81 at the Duane Marine site and analyzed by the Stablex-Reutter Laboratory in Camden, New Jersey for Polychlorinated Biphenyls. The results of the analysis are as follows:

Sample #	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
C-27651 (Tank #1)	Red Tanker	Dip Sample	Stablex-Reutter	8/11/81 1020 hrs.

Results Obtained	Confirmed Results	PCB Type
14 ppm GS-HSD	9 ppm	1221

contined . . .

mple	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
27652 27653 27654 ank #3)	White Tanker Plate # TN-1076	Dip Sample	Stablex-Reutter	8/11/81 Rear 1100 hrs. Mid. 1110 hrs. Frt. 1115 hrs.

Results Obtained	Confirmed Results	PCB Type
5.1 ppm rear 34 ppm mid 6.3 ppm frt.	8 ppm 45 ppm 10 ppm	1221 1221 1221

ple #	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
655 ker #4)	White Roll-Off Tanker	Coliswa	Stablex-Reutter	8/11/81 1155 hrs.

Results Obtained	Confirmed Results	PCB Type
7.8 ppm GC-HSD	12 ppm	1221

—	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
6 #5)	Red Tanker Plate # TX-2795	Coliswa	Stablex-Reutter	8/11/81 1155 hrs.

Results Obtained	Confirmed Results	PCB Type
1 ppm GC-HSD	1 ppm	1221

Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
Tank #1 of 3 Horizontal	Coliswa	Stablex-Reutter	8/11/81 1205 hrs.

continued . . .

Results Obtained	Confirmed Results	PCB Type
1.7 ppm GC-HSD	8 ppm	1221

Sample #	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
C-27658 (Tank #7)	Tank #2 of 3 Horizontal	Coliswa	Stablex-Reutter	8/11/81 1225 hrs.

Results Obtained	Confirmed Results	PCB Type
1 ppm GC-HSD	1 ppm	1221

Sample #	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
C-27659 (Tank #8)	Tank #3 of 3 Horizontal	Dip Sample	Stablex-Reutter	8/11/81 1235 hrs.

Results Obtained	Confirmed Results	PCB Type
4.3 ppm GC-HSD	10 ppm	1221

Sample #	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
C-27662 (Tank #9)	Small Tank #9	Thief Sample	Stablex-Reutter	8/11/81 1300 hrs.

Results Obtained	Confirmed Results	PCB Type
<1 ppm GS-HSD	<1 ppm	1221

Sample #	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
C-27663 (Tank #10)	Small Tank #10	Thief Sample	Stablex-Reutter	8/11/81 1305 hrs.

continued . . .

Sample #	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
C-27664 (Tanker #11)	Black Tanker NJSWA 1177AQS	Thief Sample	Stablex-Reutter	8/11/81 1315 hrs

Results Obtained	Confirmed Results	PCB Type
11 ppm GC-HSD	15 ppm	1221

Sample #	Sample	Sampling Method	Analyzing Laboratory	Date/Time
C-27661 (Tank #12)	White 300 Barrel Tank	Thief Sample	Stablex-Reutter	8/11/81 1250 hrs.

Results Obtained	Confirmed Results	PCB Type
< 1 ppm GS-HSD	< 1 ppm	1221

Sample #	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
C-27660 (Tank #13)	Vat Closest to Fence 2nd White	Thief Sample	Stablex-Reutter	8/11/81 1245 hrs.

Results Obtained	Confirmed Results	PCB Type
< 1 ppm GC-HSD	< 1 ppm	1221

continued . . .

Sample #	Sample Location	Sampling Method	Analyzing Laboratory	Date/Time
C-27665 C-27666 C-27667 (Tank #14)	Large Green Storage Tank	Dip Sample and Kemmerer Sampler	Stablex-Reutter	8/11/81 Top-1350 h Mid-0945 hrs. Bot.-0955 hrs. Mid & Bot. taken o: 8/12/81

Results Obtained	Confirmed Results	PCB Type
100 ppm Top	110 ppm	1216
9.3 ppm Mid.	9.0 ppm	1221
120 ppm Bot.	140 ppm	1216
GC-HSD		

Section Three

The following results are from samples taken on 9/2/81 from the six roll-off dumpsters located on the Duane Marine Property. The samples were taken by Joe Buttich and Steve Borgianini and submitted to the Stablex-Reutter Laboratory for analysis.

Sample #	Location	Parameter	Sampling Method	Results (ppm)	
C-41876	Roll-off R-1	Priority Pollutants	Clean Trowel	Benzene	500
				Toluene	2100
				Ethyl Benzene	3700
				Total-Xylene	19000
				Arsenic	.08
				Chromium	63
				Copper	34
				Lead	290
				Nickel	9.1
				Selenium	.03
				Zinc	46
C-41877	Roll-off R-2	Priority Pollutants	Clean Trowel	Dimethyl phthalate	48
				Butyl Benzyl phthalate	150
				Methylene Chloride	170
				1,1,1 - Trichloroethane	1500
				Benzene	130
				Tetrachloroethylene	4.7
				Toluene	1100
				Total-Xylene	1200

continued . . .

Sample #	location	Paramcter	Sampling Method	Results (ppm)	
				Antimony	
				Arsenic	
				Cadmium	2.
				Chromium	310
				Copper	610
				Lead	1900
				Nickel	80
				Selenium	
				Zinc	340
C-41878	Roll-off R-3	Priority Pollutants	Clean Trowel	Phenol	37
				Dimethylphthalate	33
				Methylene Chloride	19
				1,2 - Dichloropropane	75
				Benzene	28
				Toluene	210
				Ethylbenzene	140
				Total-Xylene	470
				Arsenic	.2
				Chromium	9.0
				Copper	48
				Lead	21
				Mercury	.8
				Nickel	6.5
				Selenium	.0
				Zinc	68
C-41879	Roll-off R-4	Priority Pollutants	Clean Trowel	Dimethylphthalate	21
				Butyl Benzyl phthalate	42
				Methylene Chloride	13
				1,1,1 - Trichloroethane	62
				Tetrachloroethylene	7.4
				Toluene	160
				Ethylbenzene	25
				Total-Xylene	150
				Arsenic	.48
				Cadmium	22
				Chromium	120
				Copper	42
				Lead	270
				Nickel	43
				Selenium	.04
				Silver	160
				Zinc	530

continued . . .

Section Five

Analytical data received from the N.J.S.H.D. of samples taken by Peter Rempe (Moran Crowley Diver). The samples were taken inside of the sewer lines directly under the Duane Marine site. The following is a list of analytical results received:

Sample #	Parameter	Location	Results (ppm)	
C-14021	PCB's	Sewer sludge approximately 30 ft. from Washington and Front Streets. Sludge Top	Wet 21.5 Dry 65.3	(PCB 1248)
C-14022	PCB's	Sewer approximately 30 ft. from Washington and Front Streets Middle Layer	Wet 3.7 Dry 7.0	(PCB 1248)
C-14023	PCB's	Sewer approximately 30 ft. from Washington and Front Streets Bottom Layer	Wet .9 Dry .9	(PCB 1248)
C-14024	PCB's	E.L. Beth Manhole Sludge Top Sludge	Wet 3.2 Dry 9.0	(PCB 1260)

Section Six

Results from air samples taken from the Duane Marine Corporation during the July 1980 fire. The samples were taken on 7/7/80 by the New Jersey Institute of Technology Air Pollution Research Laboratory.

Sample I.D.	Location	Time	Results (ppb)	
A	East of Buildings Near Burning Barrels	1500 hrs.	Chloroform	24
			Benzene	180
			Carbon Tetrachloride	64
			Trichloroethylene	8.5
			1,1,2 - Trichloroethane	13
			Toluene	1370
			1,2 - Dibromoethane	.35
			Tetrachloroethylene	1.4
			Chlorobenzene	8.2
			Ethylbenzene	114
			M+P-Xylene	240
			Styrene	216
			O-Xylene	213
			1,1,2,2 - Tetrachloroethane	.60
			Nitrobenzene	114

continued . . .

B	Across Washington Street just South of Fire	1500 hrs.	Vinyl Chloride	
			Chloroform	
			Benzene	
			Carbon Tetrachloride	
			Trichloroethylene	
			1,1,2 - Trichloroethane	
			Toluene	
			1,2 - Dibromoethane	
			Tetrachloroethylene	
			Chlorobenzene	
			Ethylbenzene	
			M+P-Xylene	
			Styrene	
			O-Xylene	
C	Inside North Terminal of Burned Out Building.	1255 hrs.	Chloroform	
			Benzene	7
			Carbon Tetrachloride	500
			Trichloroethylene	1
			1,1,2 - Trichloroethane	5
			Toluene	14
			Tetrachloroethylene	110
			Chlorobenzene	14
			Ethylbenzene	46
			M+P-Xylene	31
			Styrene	24
			O-Xylene	80
			1,1,2,2 - Tetrachloroethane	9
D	East of Burned Smoldering Building	1255 hrs.	Chloroform	
			Benzene	1.
			Carbon Tetrachloride	120
			Trichloroethylene	
			1,12, - Trichlorethane	1.
			Toluene	6.
			Tetrachlorethylene	33
			Chlorobenzene	4.
			Ethylbenzene	9.
			M+P-Xylene	5.
			Styrene	7.
			O-Xylene	7.
				2.
E	Across High Street Southwest of Smoldering Building	1310 hrs.	Chloroform	
			Benzene	
			Carbon Tetrachloride	5.
			Trichloroethylene	Tra

continued . . .

Sample I.D.	Location	Time	Results (ppb)	
(cont. from E)				
			1,1,2 - Trichloroethane	6.8
			Toluene	9.2
			1,2 - Dibromoethane	.06
			Tetrachloroethylene	3.1
			Chlorobenzene	1.1
			Ethylbenzene	2.7
			M+P-Xylene	6.0
			Styrene	2.7
			O-Xylene	1.9
F	Police Station New Brunswick South of Burned Industrial Complex	1345 hrs.	Chloroform	.36
			Benzene	3.3
			Carbon Tetrachloride	.15
			Trichloroethylene	.37
			1,1,2 - Trichloroethane	8.3
			Toluene	5.8
			1,2 - Dibromoethane	.07
			Tetrachloroethylene	.77
			Chlorobenzene	.27
			Ethylbenzene	.81
			M+P-Xylene	2.6
			Styrene	.74
			O-Xylene	.64

II. Conclusion

All results received by the Bureau of Technical Services from the Duane Marine site are included in this memo.

Joseph S. Buttich
Environmental Specialist
Bureau of Technical Services

cb

LIST OF KNOWN

RESPONSIBLE PARTIES

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION II
26 Federal Plaza
New York, New York 10278

IN THE MATTER OF :

EDWARD LECARREAUX :

Individual, and :

AMERICAN CAN, INC
B & E ELECTROFORM CO.
BELL LABORATORIES
BIRD & SON, INC.
CHEVRON USA, INC.
CONSOLIDATED RAIL CORP.
COSDEN OIL AND CHEMICAL CO., INC.
DIAMOND SHAMROCK CORP.
DUANE MARINE SALVAGE CORP. : Docket No.: II-CERCLA-_____
EASTERN STERLING PLASTICS
FORD MOTOR COMPANY
GENERAL ELECTRIC CO.
GENERAL MOTORS CORP.
GUSMER CORP.
HOKE INC.
HYATT ROLLER BEARING
INMONT CORPORATION
ITT MARLOWE PUMP
LOCKHEED ELECTRONICS CORP.
TOWNSHIP OF MAHWAH
METZ METALLURGICAL CORP.
MIDLAND GLASS CO., INC.
NASSAU RECYCLE CORP.
NL INDUSTRIES INC.
ORBIT TOLL AND DIE CORP.
PAINTMASTER
PORT AUTHORITY TRANS-HUDSON CORP.
REVLON, INC.
RUSTY SCUPPER RESTAURANT
SEALAND MARINE TERMINALS
TEMPCON
TENNECO CHEMICALS, INC.
TWO GUYS DEPARTMENT STORES
WEST ESSEX PRINTING PLATES, INC.
Corporations,

Respondents : FINDINGS, DETERMINATION AND ORDER

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION II
26 Federal Plaza
New York, New York 10278

IN THE MATTER OF :

EDWARD LECARREAUX :

Individual, and :

AMERICAN CAN, INC
B & E ELECTROFORM CO.
BELL LABORATORIES
BIRD & SON, INC.
CHEVRON USA, INC.
CONSOLIDATED RAIL CORP.
COSDEN OIL AND CHEMICAL CO., INC.
DIAMOND SHAMROCK CORP.
DUANE MARINE SALVAGE CORP. : Docket No.: II-CERCLA-_____
EASTERN STERLING PLASTICS
FORD MOTOR COMPANY
GENERAL ELECTRIC CO.
GENERAL MOTORS CORP.
GUSMER CORP.
HOKE INC.
HYATT ROLLER BEARING
INMONT CORPORATION
ITT MARLOWE PUMP
LOCKHEED ELECTRONICS CORP.
TOWNSHIP OF MAHWAH
METZ METALLURGICAL CORP.
MIDLAND GLASS CO., INC.
NASSAU RECYCLE CORP.
NL INDUSTRIES INC.
ORBIT TOLL AND DIE CORP.
PAINTMASTER
PORT AUTHORITY TRANS-HUDSON CORP.
REVLON, INC.
RUSTY SCUPPER RESTAURANT
SEALAND MARINE TERMINALS
TEMPCON
TENNECO CHEMICALS, INC.
TWO GUYS DEPARTMENT STORES
WEST ESSEX PRINTING PLATES, INC.
Corporations,

Respondents : FINDINGS, DETERMINATION AND ORDER